

## **SECTION 01550**

### **HOT WORK**

#### **PART 1 - GENERAL**

##### **1.1 DESCRIPTION OF WORK**

- A. Work Included: This section specifies "Hot Work" fire control procedures for contractors and their personnel, including cutters, welders and operators of heating equipment. Hot work is any work that utilizes or produces an ignition source.

##### **1.2 SUBMITTALS**

- A. Perform "Hot Work" operations as follows:
  1. Ensure the safe handling of "Hot Work" equipment and the safe use of the particular "Hot Work" process.
  2. Determine the combustible materials and hazardous areas present or likely to be present in the work locations.
  3. Protect combustibles from ignition by the following:
    - a. Have work moved to a location free from dangerous combustibles.
    - b. If the work cannot be moved, have the combustibles moved to a safe distance from the work or have the combustible properly shielded against ignition.
    - c. See that "Hot Work" is so scheduled that any operation which might expose combustibles to ignition is not started during the "Hot Work".
  4. Give notice to the project office of the need to perform "Hot Work" operations and secure authorization from the Owner.
  5. Ensure that the cutter or welder secures his or her supervisor's approval that conditions are safe before going ahead with the work.
  6. Ensure that fire protection and extinguishing equipment are properly located at the site.
  7. Where fire watchers are required, see that they are available at the site.
  8. Shall not use the signal rail system of a single rail track circuit as a negative return.
  9. Procure all required permits as per the permits sections of the GENERAL CONDITIONS.
- B. Ensure the worker handles the "Hot Work" equipment safely and uses it so as not to endanger lives or property and:

1. has the approval of his or her supervisor and the MBTA project office before starting any "Hot Work".
2. does not perform any "Hot Work" where conditions are not safe.
3. continues to perform "Hot Work" only so long as conditions are unchanged from those under which approval was granted.

### **1.3 FIRE PREVENTION PRECAUTIONS**

- A. Permit "Hot Work" only in areas that are or have been made fire-safe. Within the confines of a building or other enclosed structure, perform cutting and welding operations preferably in a specific area designed or approved for such work, such as a maintenance shop or a detached outside location. Ensure that such areas are of noncombustible or fire resistive construction, essentially free of combustible and flammable contents, and suitably segregated from adjacent areas. When work cannot be moved practicably, as in most construction work, make the area fire-safe by removing combustibles or protecting combustibles from ignition sources.
- B. Do not permit "Hot Work" in the following situations:
  1. In areas not authorized by the project office;
  2. In sprinklered buildings while such protection is impaired;
  3. In the presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids or dusts with air), or explosive atmospheres that may develop inside uncleared or improperly prepared tanks or equipment which have previously contained such materials, or that may develop in areas with an accumulation of combustible dusts;
  4. In areas near the storage of large quantities of exposed, readily ignitable materials such as bulk sulphur, baled paper or cotton.
- C. Before "Hot Work" is permitted, the Owner will give notification authorizing the "Hot Work", and designate precautions to be followed. He will have designated MBTA personnel inspect the work area for fire safety, as indicated herein, and which personnel will complete a "Hot Work" checklist. The Owner will also assure himself of the following:
  1. The "Hot Work" equipment to be used is in satisfactory operating condition and in good repair.
  2. Where there are combustible materials such as paper clippings, wood shavings or textile fibers on the floor, sweep the floor clean for a radius of 35 feet. Keep combustible floors wet, covered with damp sand, or protected by fire resistant shields. Where floors have been wet down, protect personnel operating arc welding or cutting equipment from possible shock.
  3. Where practicable, relocate combustibles at least 35 feet from the work site. Where relocation is impracticable, protect combustibles with flame proofed covers or otherwise shield with metal or fire-resistant guards or curtains. Secure edges of covers at the floor so they are tight to prevent sparks from going under them. This

precaution is also important at overlaps where several covers are used to protect a large pile.

4. Tightly cover wall or floor openings or cracks within 35 feet of the site to prevent the passage of sparks to adjacent areas.
5. Suitably protect or shut down ducts and conveyor systems that might carry sparks to distant combustibles.
6. Where "Hot Work" is done near walls, partitions, ceilings or roofs, or combustible construction, provide fire resistant shields or guards to prevent ignition. If welding is to be done on a metal wall, partition, ceiling or roof, take precautions to prevent ignition of combustibles on the other side, due to conduction or radiation, preferably by relocating combustibles. Where combustibles are not relocated, provide a fire watch on the opposite side of the work. Do not attempt welding on a metal partition, wall, ceiling or roof having a combustible covering, nor on walls or partitions of combustible sandwich type panel construction.
7. Do not undertake to perform "Hot Work" on pipes or other metal in contact with combustible walls, partitions, ceilings or roofs if the work is close enough to cause ignition by conduction.
8. Provide sufficient quantities of portable fire extinguishers, appropriate for the type of possible fire, at the work area. Where hose lines are available, connect them so they are ready for service.
9. Suitably protect nearby personnel against heat, sparks, slag, etc.

D. Require the services of Fire Watchers whenever "Hot Work" is performed in locations where other than a minor fire might develop, or where the following conditions exists:

1. Appreciable combustible material in the building construction or contents is closer than 35 feet to the point of operation.
2. Appreciable combustibles are more than 35 feet away, but are easily ignited by sparks.
3. Wall or floor openings within a 35 foot radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
4. Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings or roofs, and are likely to be ignited by conduction or radiation.

E. Fire Watcher's responsibilities include:

1. Have fire extinguishing equipment readily available and be trained in its use.
2. Be familiar with facilities for sounding an alarm in the event of fire.
3. Watch for fires in exposed areas, and try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm.
4. Maintain a fire watch for at least one half hour after completion of "Hot Work" operations to detect and extinguish possible smoldering fires.

- F. Where a Fire Watch is not required, make a Final Check Up one half hour after the completion of "Hot Work" operations to detect and extinguish possible smoldering fires.
- G. Have "hot tapping" operations or other cutting or welding on a flammable gas or liquid transmission or distribution utility pipeline performed only by a crew qualified to make hot taps.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

Not Used.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 MEASUREMENT AND PAYMENT**

- A. No separate measurement or payment will be made for work required under this section. Costs in connection therewith will be considered incidental to the item or items of work to which they pertain.

## **END OF SECTION**